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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,410	04/07/2005	Nobuki Kitano	DK-US055065	5775
22919	7590	01/24/2006	EXAMINER	
SHINJYU GLOBAL IP COUNSELORS, LLP 1233 20TH STREET, NW, SUITE 700 WASHINGTON, DC 20036-2680			GLASS, ERICK DAVID	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/530,410

Applicant(s)

KITANO, NOBUKI

Examiner

Erick Glass

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/7/05</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "negative side" is vague and indefinite.

### ***Claim Objections***

Claims 1 and 11 are objected to because of the following informalities: Claim 1 and 11 are duplicates of each other. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2-3, 5-6, 9-11, 13-15, 17-18, and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirono et al (US 6,646,411).

With respect to claim 1, Hirono et al discloses detecting (fig. 1, 29) at least one of an output voltage value and a command value of the inverter as a detection value (column 1, lines 50-52), and controlling (fig. 1, 24) at least one of voltage and current of the inverter based upon the detection value so that one of the output voltage value and

the command value of the inverter does not exceed a predetermined value (column 1, lines 57-58).

With respect to claim 2, Hirono et al discloses detecting (fig. 1, 29) at least one of an output voltage value and a command value of the inverter as a detection value (column 1, lines 50-52), and controlling (fig. 1, 24) at least one of voltage and current of the inverter based upon the detection value so that one of the output voltage value and the command value of the inverter does not exceed a predetermined value (column 1, lines 57-58), taking precedence over suppression of the rotational speed variation (fig. 2a, s6).

With respect to claim 3, Hirono et al discloses the detection value is a peak value (column 8, line 36) of one of the output voltage value of the inverter and the command value.

With respect to claim 5, Hirono et al discloses detecting a current (column 1, lines 50-52) of the inverter using current detection section (fig. 1, 29) as a current detection value, and controlling (fig. 1, 24) at least one of voltage and the current of the inverter based upon the current detection value so as not to exceed the current detection extent (column 1, lines 57-58).

With respect to claim 6, Hirono et al discloses detecting a current (column 1, lines 50-52) of the inverter as a current detection value using a current detection section (fig. 1, 29) for driving the motor (fig. 1, 12), and controlling (fig. 1, 24) at least one of voltage and the current of the inverter based upon the current detection value so as not to exceed the current detection extent (column 1, lines 57-58), for driving a motor.

With respect to claim 9, Hirono et al discloses detecting or estimating load (column 2, lines 1-2), and not suppressing rotational speed variations of the motor in correspondence with the load being smaller than a predetermined value (column 5, lines 20-27).

With respect to claim 10, Hirono et al does not teach wherein the load is detected or estimated by means of an average current. The examiner takes official notice that detecting an average current in place of an instantaneous current is known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a circuit where the load is detected or estimated by means of an average current, thereby making the value more stable and not as prone to disturbances or fluctuations to produce a more stable system.

With respect to claim 11, Hirono et al discloses detecting (fig. 1, 29) at least one of an output voltage value and a command value of the inverter as a detection value (column 1, lines 50-52), and controlling (fig. 1, 24) at least one of voltage and current of the inverter based upon the detection value so that one of the output voltage value and the command value of the inverter does not exceed a predetermined value (column 1, lines 57-58).

With respect to claim 13, Hirono et al discloses a detection section (fig. 1, 29) at least one of an output voltage value and a command value of the inverter as a detection value (column 1, lines 50-52), and an inverter control section (fig. 1, 24) for controlling at least one of voltage and current of the inverter based upon the detection value so that

one of the output voltage value and the command value of the inverter does not exceed a predetermined value (column 1, lines 57-58).

With respect to claim 14, Hirono et al discloses a detection section (fig. 1, 29) at least one of an output voltage value and a command value of the inverter as a detection value (column 1, lines 50-52), and an inverter control section (fig. 1, 24) for controlling at least one of voltage and current of the inverter based upon the detection value so that one of the output voltage value and the command value of the inverter does not exceed a predetermined value (column 1, lines 57-58), taking precedence over suppression of rotational speed variations (fig. 2, s6).

With respect to claim 15, Hirono et al discloses the detection value is a peak value (column 8, line 36) of one of the output voltage value of the inverter and the command value.

With respect to claim 17, Hirono et al discloses a current detection section (fig. 1, 29) for detecting the current of the inverter as a current detection value (column 1, lines 50-52), and an inverter control section (fig. 1, 24) for controlling at least one of voltage and the current of the inverter based upon the current detection value so as not to exceed a current detection extent (column 1, lines 57-58).

With respect to claim 18, Hirono et al discloses a current detection section (fig. 1, 29) for detecting as a current detection value (column 1, lines 50-52) at least one of an input current and an output current of the inverter, for driving the motor (fig. 1, 12), and an inverter control section (fig. 1, 24) for controlling at least one of voltage and current

of the inverter based upon the current detection value so as not to exceed a current detection extent (column 1, lines 57-58), for driving the motor.

With respect to claim 21, Hirono et al discloses a load detection section (fig. 1, 26) for detecting or estimating load (column 2, lines 1-2), and an inverter control section (fig. 1, 24) not suppressing rotational speed variations of the motor in correspondence with the load being smaller than a predetermined value (column 5, lines 20-27).

With respect to claim 22, Hirono et al does not teach wherein the load is detected or estimated by means of an average current. The examiner takes official notice that detecting an average current in place of an instantaneous current is known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a circuit where the load is detected or estimated by means of an average current, thereby making the value more stable and not as prone to disturbances or fluctuations to produce a more stable system.

With respect to claim 23, Hirono et al discloses a detection section (fig. 1, 29) for detecting at least one of an output voltage value and a command value of the inverter as a detection value (column 1, lines 50-52), and an inverter control section (fig. 1, 24) for controlling at least one of voltage and current of the inverter based upon the current detection value so that one of the output voltage value and the command value of the inverter does not exceed a predetermined value (column 1, lines 57-58).

With respect to claim 24, Hirono et al discloses a direct current voltage control section (fig. 1, 24) for controlling the direct current voltage supplied to the inverter based upon the detection value.

Claims 4, 7, 12, 16, 19, rejected under 35 U.S.C. 102(b) as being anticipated by Ochiai et al (US 6,422,331).

With respect to claim 4, Ochiai et al discloses decreasing an amplitude of an output torque (column 3, lines 18-26) variation of the motor (fig. 1, 2), and controlling at least one of voltage and current of the inverter (fig. 1, 7) so that at least one of the output voltage value and the command value of the inverter does not exceed a predetermined value (column 2, lines 5-12).

With respect to claim 7, Ochiai et al discloses decreasing an amplitude of an output torque (column 3, lines 18-26) variation of the motor (fig. 1, 2), and controlling at least one of voltage and current of the inverter (fig. 1, 7) so as not exceed a current detection extent (column 2, lines 5-12).

With respect to claim 16, Ochiai et al discloses decreasing an amplitude of an output torque (column 3, lines 18-26) variation of the motor (fig. 1, 2), and an inverter control section (fig. 1, 5) for controlling at least one of voltage and current of the inverter (fig. 1, 7) so that one of output voltage value and the command value of the inverter does not exceed a predetermined value (column 2, lines 5-12).

With respect to claim 12, Ochiai et al discloses wherein the direct current voltage supplied (fig. 1, voltage supplied to 7) to the inverter (fig. 1, 7) is controlled based upon the detection value (column 5, lines 13-19).

With respect to claim 19, Ochiai et al discloses a section (fig. 1, 5) for decreasing an amplitude of an output torque (column 3, lines 18-26) variation of the motor (fig. 1,



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2), and inverter control system for controlling at least one of voltage and current of the inverter (fig. 1, 7) so as not exceed a current detection extent (column 2, lines 5-12).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Glass whose telephone number is 571-272-8395.

The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EG



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